A Clinical Outcome-Based Computerized Pharmacist Intervention Program

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Clinical pharmacists within the hospital and ambulatory care areas have become an integral part of the health care team. As pharmacists become more involved in direct patient care there is a greater need to document the clinical interventions that are made and to assess the clinical outcome of those interventions. There have been a several articles published regarding documentation of clinical pharmacist interventions.[1-2] We have developed an independent computerized pharmacist intervention program which allows for the ongoing documentation and evaluation of the clinical outcomes of our pharmacy interventions.

The pharmacy department provides clinical pharmacy services to all primary care clinics in the Patient Ambulatory Care and Education (PACE) program, Geriatric clinics, Sub-Specialty clinics and Outpatient Mental Health. Pharmacists review the patient charts noting all pertinent diagnostic and laboratory data, consult with clinician staff regarding drug therapy modifications, counsel patients on appropriate drug use and storage, and input the prescription into the mainframe computer system.

All pharmacists are required to document any pharmaceutical interventions. A clinical intervention is defined as any event that was initiated by a pharmacist which may have an impact on drug therapy or patient care (ie. drug selection, dose adjustment, potential drug-drug, drug-food, drug disease state interactions). Recommended actions, level of acceptance, cost impact and clinical outcome are documented.

A computer program for documenting interventions program was developed by members of the pharmacy department in conjunction with the PACE Informatics department. The intervention program was written in Visual Basic and is a database-driven survey tool for collecting intervention data. The intervention data file contains fields identifying the patient, the date, the cost savings and identifier fields for the pharmacist and the types of interventions. The data entry form has a list box for patient selection and one to allow navigation among the survey questions. Possible answers are selected by mouse or keyboard strokes. Single or multiple answers are supported and new answers may be typed into a text box in accordance with what is permitted by codes within the question database file. When follow-up or outcome is requested, pre-printed progress notes generated at future patient visits are flagged to alert pharmacists to evaluate and document the outcome of the intervention. The average time needed to enter intervention information is 3 minutes.

The unique aspect of our pharmacist intervention program is the ability to evaluate the clinical outcome of our interventions. When the interventions are input into the computer the pharmacist determines if a clinical outcome is associated with the intervention. For example, if the pharmacist recommends that a less costly antihypertensive medication be prescribed, that intervention is flagged within the system for an outcome check. When the patient returns to clinic the blood pressure, laboratory data and side effect profile is evaluated by the pharmacist and the outcome is recorded as either positive, negative or no change.

We have been able to determine that 95% of the pharmacists recommendations are accepted. The pharmacist average 1500 interventions per quarter with an average cost savings of $12,000 per quarter. We are currently evaluating the clinical outcome data. Thus far the majority of our interventions have a positive clinical outcome. We feel that our intervention system has been invaluable in documenting the types of pharmaceutical care activities performed by the pharmacists.

References

1. Mason RN, Pugh CB, Boyer SB. Computerized documentation of pharmacists' interventions. Am J Hosp Pharm. 1994; 52:2131-8.

2. McDaniel MR, DeJong DJ. Using pharmacists' documentation of clinical activities to reclaim employees and reposition the department. Am J Hosp Pharm. 1996; 53:285-288.

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